Annual Report of the Board of Public Health Works, Bombay Presidency

For the Year 1936-37

BOMBAY
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1938

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No. 160

ANNUAL REPORT OF THE BOARD OF PUBLIC HEALTH WORKS, BOMBAY PRESIDENCY, FOR THE YEAR ENDED 31ST MARCH 1937.

The Public Health Branch was re-organized on 1st April 1933 and became purely consultant. In consequence, the functions, powers and constitution of the Board of Public Health Works, which previously directed all Public Health Works in the Presidency, were also revised.

2. The official and non-official membership of the Board was organized as under :—

1. The Commissioner, Central Division ... *President.*
2. The Secretary to Government, General Department.
3. The Chief Engineer and Secretary to Government, Public Works Department.
4. The Director of Public Health for the Government of Bombay.
5. The Consulting Surveyor to Government.
6 & 7. Two non-officials.

Members.

8. The Consulting Public Health Engineer to Government. *Member and Secretary.*

The personnel of the Board is given in Appendix I.

3. The functions and powers of the Board have been modified as under :—

Functions.—

(1) The Board is to advise Government on all general questions of sanitary policy including the formulation of the principles to be followed for the healthy and orderly growth of inhabited areas and the preparation and submission to Government of Public Health Engineering type designs.

The Board will also be consulted by Government regarding large individual schemes of sanitary improvements.

(2) The Board is to report to Government upon such matters as may be referred by Government for opinion but is free to represent to Government any matter which it recognises as of importance.

(3) The Board is to consider measures for effecting improvements in sanitation in the Presidency and to give help and advice to local bodies on public health matters.

(4) The Board is to scrutinize public health improvement schemes from all aspects, including finance, with a view to recommending execution by the local body concerned with or without help from Government.

4. *Powers of the Board.*—The Board is empowered to accord :—

(1) approval to the preliminary investigations of sanitary schemes up to any amount ;

(2) approval to the preparation of detailed plans and estimates ;

(3) administrative approval to works costing not more than Rs. 50,000 in the case of projects which are proposed to be executed by the local body through the agency of the Government Public Works Department.

In the case of works proposed to be executed by the local body through its own agency, the Board shall be competent to give administrative approval without limit ;

(4) preliminary approval to sanitary schemes to be carried out from provincial revenues up to any amount ;

(5) sanction to non-recurring grants up to Rs. 10,000 in each case from such sums as may be placed at the disposal of the Board by Government for minor sanitary schemes from time to time.

All cases which are administratively approved by the Board are to be reported to Government with a brief description of the works and intimation concerning the agency which the local body proposes to employ to execute the work.

The Board discharges its functions at meetings held at intervals, any specially urgent questions being dealt with by circulation. The Board's executive functions are carried out by the Consulting Public Health Engineer to Government.

5. The duties of the Consulting Public Health Engineer are to examine the schemes technically, to investigate the details on site, to inspect works under execution and to advice local bodies in respect of their sanitary schemes. All public health schemes carried out from loan funds are scrutinised by the Consulting Public Health Engineer for the Board in respect of their technical details, and the schemes are administratively approved or recommended to Government for approval by the Board before construction is undertaken.

6. Sind was separated from the Bombay Presidency from 1st April 1936 and constituted into a separate province. The activities of the Board of Public Health Works and the Consulting Public Health Engineer are therefore confined since that date to the Presidency proper.

7. One meeting was held during the year, on 28th September 1936. The projects which came up for the Board's approval subsequently were dealt with by circulation.

The schemes that were finally approved by the Board are tabulated in Appendix II.

The Consulting Public Health Engineer, himself or through his assistants, inspected all the public health works in the Presidency carried out by local bodies.

A large amount of preliminary work by way of inspection and advice has to be carried out and given before a request actually emanates from a local body for the preparation of plans and estimates for any new project. The local bodies concerned are in many cases not able to give effect at once to the advice tendered as they have always to depend upon the state of their finances at the time. The volume of work initiated in a year as reflected in the permissions granted for the preparation of plans and estimates, and approvals accorded to projects by the Board is therefore small when compared to the preliminary work actually undertaken.

The Consulting Public Health Engineer was also engaged in the supervision of the following public health works of Indian States :—

(1) Jawhar Water Supply.

(2) Kurundwad Water Supply.

(3) Akalkot Water Supply.

The works were visited as often as the local administration required. These works are nearly completed.

8. The expenditure on public health works carried out by Government agency (P.W.D. staff) for local bodies amounted to Rs. 1,63,946 during the year, and that incurred from provincial funds for works maintained by Government amounted to Rs. 5,78,904 or to the total of Rs. 7,43,149. The total Government grant-in-aid sanctioned to cover centage charges or rebates amounted to Rs. 21,530. The expenditure incurred during the year by local bodies on account of maintenance of their works amounted to Rs. 17,44,793.

Fees are now levied by the Consulting Public Health Engineer—*vide* Appendix III. The total amount of such fees recovered during the year and credited to Government amounted to Rs. 39,156.

9. For the first time, statistical information, regarding the finances and technical working of the water supply and drainage installations in this Presidency are included in the Report. The statements show, besides other useful information, the consumption of water in towns which have their own water works installations, the expenditure incurred on maintenance and the cost per 1,000 gallons of water supplied, taking into account the interest and sinking fund charges. It may be generally observed that information about all the water supply and drainage installations of the Presidency is not included, as complete information about some is still awaited. However, the statistical data presented will be

helpful to those interested in civic welfare to form an idea as to how and in what respect the installations in which they are most concerned, differ from the rest.

It is hoped that with the beginning now made, it will be possible to bring home to all local authorities the desirability of maintaining such data.

W. H. E. GARROD,
Consulting Public Health
Engineer to Government.

APPENDIX I.

PERSONNEL OF THE BOARD OF PUBLIC HEALTH WORKS, BOMBAY PRESIDENCY, AS IT STOOD ON 31ST MARCH 1937.

President.

The Commissioner, Central Division.	J. W. Smyth, C.S.I., C.I.E., I.C.S.

Official Members.

The Secretary to Government, General Department.	H. T. Sorley, M.A. (Aber.), I.C.S.
The Secretary to Government, Public Works Department.	T. A. Andrew, B.Sc. (Eng.) Glas., I.S.E.
The Director of Public Health for the Government of Bombay.	Lt.-Col. A. Y. Dabholkar, M.C., M.B.B.S., B.Sc. (Bom.), D.P.H., D.T.M. & H., I.M.S.
The Consulting Surveyor to Government.	T. H. G. Stamper, M.C., F.S.I.

Non-Official Members.

1. Pestanshah N. Vakil.
2. Khan Bahadur Abdul Latif Haji Hajratkhan, M.L.A.

Official Member and Secretary.

V. G. Shete, L.C.E., M.I.E. (Ind.), M.R. San.I., A.M.Inst.C.E., I.S.E.

W. H. E. GARROD,
Secretary, Board of Public Health Works,
Bombay Presidency.

APPENDIX II.

PUBLIC HEALTH ENGINEERING SCHEMES APPROVED BY THE BOARD OF PUBLIC HEALTH WORKS DURING 1936-37.

The following projects were approved and execution of the same authorised by the agency noted against each :—

	Name of Project.	Estimated cost.	Agency of execution.
		Rs.	
1.	Ahmedabad Suburban Drainage Scheme, Second Stage.	24,82,280	Ahmedabad Municipality.
2.	Improvements to Sirur Water Supply ...	18,500	Sirur Municipality.

Since 1933 (when the re-organization of the branch was effected), the Board has authorised preparation of detailed plans and estimates by Government agency in respect of 14 schemes; out of these, four have been prepared by the Executive Engineers concerned and passed on after scrutiny by the Consulting Public Health Engineer and approval by the Board of Public Health Works to the Superintending Engineers concerned, for obtaining the sanction of Government. The remaining schemes were in course of preparation and their receipt was awaited.

Out of the 23 projects approved so far, the works of improvements to Bhiwandi Water Supply, certain minor works at Sholapur and the Renewal of Rising Main at Bijapur have been completed; and the work on the remaining 20 schemes was either in progress or was not commenced pending sanction to the raising of loans. The works in progress were duly inspected by the Consulting Public Health Engineer to Government.

W. H. E. GARROD,

Consulting Public Health Engineer to Government.

APPENDIX III.

SCALE OF FEES IN RESPECT OF PREPARATION, SCRUTINY, EXECUTION AND INSPECTION OF PUBLIC HEALTH SCHEMES CARRIED OUT BY GOVERNMENT AGENCY.

(1) *For preliminary investigation and report.*—For a local body—no charge. For an outside body the daily pay of the officer making the investigation and the staff which accompanies him from the date of leaving headquarters till the date of return *plus* 50 per cent. for a period not exceeding seven days.

For periods in excess of seven days, the charge will be as above for the first seven days, and thereafter the daily pay of the officer making the investigation and staff which accompanies him *plus* 100 per cent.

In all cases the travelling and halting allowances of the Consulting Public Health Engineer and his staff will be paid by the local or outside body concerned.

(2) *For carrying out detailed surveys in connection with a project.*—The estimated cost of the survey, including cost of establishment to be engaged, shall be recovered.

(3) *For preparation of a project complete with all necessary drawings and estimates.*—2½ per cent. of the estimated cost less the amounts paid under (1) and (2) above.

(4) *For scrutiny by the Consulting Public Health Engineer of a project prepared for a local or outside body by an agency other than the Public Works Department.*—1¼ per cent. of the estimated cost of the project.

(5) *Inspection by the Consulting Public Health Engineer to Government of Public Health Works under construction, if constructed by an agency other than the Public Works Department.*—1¼ per cent. on the actual Works outlay exclusive of land compensation.

If the consulting Public Health Engineer is asked to act continuously as consultant for any work and has accordingly to visit that work from time to time as it progresses, the total charge will be 1¼ per cent. of the estimated cost. If at the request of the local body he pays an occasional visit only the charge will be Rs. 100 *plus* the actual expenses of journey *plus* usual travelling allowances, etc.; but no charge is made for visits made by the Consulting Public Health Engineer on his own initiative or for advice offered on such visits or for visits by the engineers of local bodies to him at his office to consult him about any particular point that arises.

(6) *Construction of works by the Public Works Department on behalf of a local body.*—Establishment and tools and plant charges at 15 per cent. of the estimated cost of the project inclusive of 2½ per cent. for the preparation of plans and estimates.

An application for raising a loan either from Government or in the open market is only sanctioned after a Public Health Scheme has been approved administratively by the Board of Public Health Works and technically by the consulting Public Health Engineer to Government.

Public Health Works financed from loans taken by local bodies are, if executed by their own qualified agency, subject to control and inspection by the Consulting Public Health Engineer to Government according to rules framed under the Local Authorities Loans Act. But where the local body does not either possess a staff, or employ a qualified agency capable of carrying out the work on approved lines, it is open to Government to impose a condition that the work should be carried out by the Agency of the Public Works Department.

W. H. E. GARROD,
Secretary,
Board of Public Health Works,
Bombay Presidency.

STATEMENT

Statement of operations of various Water Works

—	Ahmedabad.	Kapadwanj.	Surat.	Bhiwandi.	Kurla.
1	2	3	4	5	6
POPULATION.					
1. By census of 1931 in Municipality...	382,575	16,931	161,413	15,623	39,266
2. By census of 1931 in Cantonments.	.....	.....	.....	.....	.....
3. Inhabitants drawing their supply from mains.	3,70,000	16,931	.....	10,000	32,000 (1936-37)
CONSUMPTION OF WATER.					
4. Metered supplies—in million gallons—					
(*a*) Cantonments	.....	.....	.....	.....	.....
(*b*) Trade	357·5	0·98	.....	.....	98·428
(*c*) Domestic (bungalows, etc.) ...	1·0	0·08	.....	.....	113·488
(*d*) Buildings	.....	0·39	.....	.....	.....
Total metered supplies million gallons.	358·5	1·45	1,312·85	.....	211.916
5. Unmetered supplies in million gallons—					
(*a*) Domestic (assessment or ferrule).	5,196·5	.....	.....	0·17	.....
(*b*) Standposts	25	.....	.....	0·04	1·5
(*c*) Buildings	40	.....	.....	0·001	.....
(*d*) Municipal purposes (Road watering, irrigation and flushing, etc.).	360	.....	.....	.....	.....
Total unmetered supplies million gallons	5,621·5	65·76	.....	0·211	1·5
6. Total quantity supplied during the year (items 4 and 5) million gallons.	5,980·0	67·21	1,312·85	0·211	213·416

9 SECRETARIAT'S LIBRARY

No. 1. No. 160

in the Bombay Presidency for the year 1936-37.

Ahmednagar. 7	Jalgaon. 8	Dhulia. 9	Nandurbar. 10	Nasik. 11	Trimbak. 12	Poona City. 13	Poona Cantonment. 14
41,890	34,464	39,656	16,741	35,744	4,195	163,103	16,676
1,624	.....	.....	.....	.....	.....	.....	35,807
43,514	34,464	38,276	16,741	.....	4,195	160,000	53,183
.....	.....	.....	.....	.....	.....	.....	.....
.....	5·45	.....	0·26	0·61	.....	24·59	.....
.....	7·56	.....	.....	51·67	.....	.....	939·5
.....	0·33	.....	.....	.....	.....	19·08	.....
.....	13·34	4·9	0·26	52·28	.....	43·67	939·5
.....	338·92	.....	.....	.....	12	2,650·88	27·34
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	2·70	.....	.....	.....	.....	502·75	.....
223·65	341·62	141·1	69·22	274·59	12	3,153·63	27·34
223·65	354·96	146	69·48	326·67	12	3,197·3	966·84

STATEMENT

Statement of operations of various Water Works

— 1	Kirkee. 15	Lonavla. 16	Alandi. 17	Karad. 18
POPULATION.				
1. By census of 1931 in Municipality..	.....	10,693	1,680	14,479
2. By census of 1931 in Cantonments.	13,062	.....	.....	.....
3. Inhabitants drawing their supply from mains.	13,062	10,693	1,680	.....
CONSUMPTION OF WATER.				
4. Metered supplies in million gallons—				
(a) Cantonments	.....	.....	.....	.....
(b) Trade	.....	.....	.....	.....
(c) Domestic (bungalows, etc.) ..	211·39	23·43	.....	.....
(d) Buildings	.....	0·025	.....	.....
Total metered supplies million gallons.	211·39	23·456	.....	.....
5. Unmetered supplies in million gallons—				
(a) Domestic (assessment or ferrule).	61·02	59·13	.. ...	.....
(b) Standpost	... ..	0·04	8·69	.....
(c) Buildings	.....	.....	.....	.....
(d) Municipal purposes (Road watering, irrigation and flushing, etc.)	.....	.....	.....	.....
Total unmetered supplies million gallons.	61·02	59·16	8·69	69·07
6. Total quantity supplied during the year (items 4 and 5) million gallons.	272·41	82·62	8·69	69·07

No. 1—*contd.*

in the Bombay Presidency for the year 1936-37—contd.

Satara City.	Sholapur.	Barsi.	Pandharpur.	Bijapur.	Hubli.	Matheran.	Ratnagiri.
19	20	21	22	23	24	25	26
24,027	135,574	27,610	29,508	19,753	83,494	2,734	17,321
2,342	.....	.....	.....	.....	.....	.....	2,500
26,379	135,574	27,610	29,508	19,753	83,494	2,734	8,500
.....	.....	.....	.....	.....	.....	.....	.....
.....	7·14	4·43	.....	.....	.....	.....	.....
.....	38·39	0·11	.....	17·72	.....	8·1	.....
.....	.....	.....	.....	.....	.....	.....	.....
16·57	45·53	4·54	293·07	17·72	.....	8·1	.....
.....	.....	.....	.....	102·06	.....	1·8	.....
.....	.....	.....	.....	92·07	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	3·0	.....	1·9	.....
300	1,368·74	.....	.....	197·18	304·28	3·7	65·66
316·57	1,414·27	4·54	293·07	214·85	304·28	11·8	65·66

STATEMENT

—	Ahmedabad.	Kapadwanj.	Surat.	Bhiwandi.	Kurla.
1	2	3	4	5	6
7. Daily average supply—million gallons.	16·38	0·18	3·59	0·6	0·6
8. Maximum daily average in any one month—million gallons.	18·30	.....	3·89	0·17	0·63
9. Consumption per head per day for municipal purposes and buildings, etc.	3	11·56	.....	15	8·5
10. Consumption per head per day for trade alone in million gallons.	3				0·5
11. Consumption per head per day for domestic purposes in million gallons.	38				9·7
12. Total consumption per head per day (items 9, 10 and 11) in million gallons.	44	11·56	22·2	15	18·7
13. Hours of daily supply	13·5	9·5	17	.....	24
14. Total hours of pumping during the year.	200,000	3493·5	6,804	.....	.....
LIFT OF PUMPS (in feet.)					
15. From river to settling tanks, feet...	.....	.....	113·5	.....	.....
16. From filtered water pumps to town distribution, feet.	110	.....	.....	.....	.....
17. Total lift, feet	110, 110 50 & 80	146	113·5	.....	.....
18. Total water horse power hours during the year in million.	3·33	0·51	0·76	.....	.....
SUPPLY CONNECTIONS.					
Unmetered—					
19. Number of connections made during 1936-37.	676	140	756	11	.....
20. Total number of connections ...	38,260	419	13,746	339	.....
Metered—					
21. Number of house connections made during 1936-37.	2	.....	51	.....	26
22. Total number of house connections.	7	7	338	.....	975
23. Number of trade connections made during 1936-37.	2	1	22	.....	2
24. Total number of trade connections.	149	3	155	14	65
Total number of metered connections (items 22 and 24).	156	10	493	14	1,040
ANNUAL CHARGES AND COST OF WATER SUPPLIED.					
25. Maintenance charges Rs.	2,97,407	10,520	56,648·5	1,142	6,986
26. Interest and sinking fund Rs.	1,41,437	4,000	.....	.....	.....
27. Total charges ... ... Rs.	4,38,844	14,520	56,648·5	1,142	6,986

No. 1—*contd.*

Ahmednagar. 7	Jalgaon. 8	Dhulia. 9	Nandurbar. 10	Nasik. 11	Trimbak. 12	Poona City. 13	Poona Cantonment. 14
0·63	0·97	0·4	0·19	0·89	0·03	8·7	2·64
0·33	1·09	0·4	0·28	1·12	0·04	10	3·60
11·64	0·84	.....	.....	0·003	.....	0·43	.....
.....	0·43	.....	0·04	.....	.....	8·99	.....
.....	26·94	.....	11·32	18	8	45·39	50
14·64	28·21	10	11·36	18	8	54·80	50
6	4 to 5	10	3	4	4	17	24
.....	7,300	.....	.....	8,371	1,000	4,693	11,179
.....	186	.....	.....	.....	.....	.....	40
.....	.....	.....	.....	200	.....	70	210,170,140 & 70
.....	186	.....	.....	200	45	70	210
.....	0·46	.....	.....	0·001	.....	.....	0·59
103	75	67	87	156	.....	402	26
1,624	1,398	1,451	532	1,996	.....	8,956	360
.....	2	.....	.....	47	.....	320	95
.....	23	2	.....	242	90	2,206	2,512
.....	.....	.....	.....	.....	.....	.....	.....
.....	1	18	9	2	.....	.....	.....
.....	24	20	9	244	90	2,206	2,512
.....	20,255	6,380	7,303	45,600	1,989	.....	1,69,960
.....	.....	.....	24,000	17,300	1,410	.....	.....
.....	20,255	6,380	31,303	63,100	3,399	.....	1,69,960

STATEMENT

—	Kirkee.	Lonavla.	Alandi.	Karad.
1	15	16	17	18
7. Daily average supply—million gallons.	0·7	0·23	0·03	0·19
8. Maximum daily average in any one month—million gallons.	0·8	0·18	0·05	0·20
9. Consumption per head per day for municipal purposes and buildings, etc.	.....	.....	.....	.....
10. Consumption per head per day for trade alone in million gallons.	.....	.....	.....	.....
11. Consumption per head per day for domestic purposes in million gallons.	46	21·2	16	12·10
12. Total consumption per head per day (items 9, 10 and 11) in million gallons.	46	21·2	16	13·10
13. Hours of daily supply	24	24 for 5 months. 9 for the rest.	24	4
14. Total hours of pumping during the year.	3,112	.....	1,170	3,029
LIFT OF PUMPS (in feet.)				
15. From river to settling tanks, feet.	.....	.....	.....	75
16. From filtered water pumps to town distribution, feet.	160	.....	.....	70
17. Total lift, feet	160	.....	90	145
18. Total water horse power hours during the year in million.	0·18	.....	0·004	0·05
SUPPLY CONNECTIONS.				
Unmetered—				
19. Number of connections made during 1936-37.	.....	12	.....	32
20. Total number of connections ...	42	518	.....	565
Metered—				
21. Number of house connections made during 1936-37.	4	1	.....	.....
22. Total number of house connections.	803	80	.....	5
23. Number of trade connections made during 1936-37.	.....	.....	.....	.....
24. Total number of trade connections.	.....	.....	.....	1
Total number of metered connections (items 22 and 24).	.....	.....	.....	6
ANNUAL CHARGES AND COST OF WATER SUPPLIED.				
25. Maintenance charges Rs.	57,411	2,362	4,908	10,631
26. Interest and sinking fund Rs.	.....	4,195	1,308	8,669
27. Total charges ... ... Rs.	57,411	6,557	6,216	19,300

No. 1—*contd.*

Satara City.	Sholapur.	Barsi.	Pandharpur.	Bijapur.	Hubli.	Matheran.	Ratnagiri.
19	20	21	22	23	24	25	26
0·87	3·87	.....	0·8	0·59	0·83	0·04	0·18
.....	4·04	.....	0·84	0·61	1·25	0·18	0·33
.....	.....	.....	.....	0·23	.....	2·56	.....
.....	0 14	.....	.....	.....	.....	.....	10
.....	28·33	.....	.....	16·84	.....	13·40	11·16
32·8	28·97	.....	.....	17·07	10	15·96	21·16
.....	8	.....	6·5	5	2	24	24
.....	15,781	.....	4,482	.....	5,704	1,050	.....
.....	.....	.....	.....	.....	.....	480	.....
.....	.....	.....	137	.....	.....	.....	.....
.....	143·3	.....	137	223	135	480	.....
.....	1·021	.....	0·2	.....	.....	.....	.....
47	138	97	.....	35	89	.....	.....
997	4,144	990	.....	1,063	1,763	.....	.....
.....	2	.....	.....	100	.....	.....	281
.....	24	1	.....	104	.....	220	.....
1	.....	.....	.....	.....	.....	.....	.....
31	84	20	.....	.....	25	.....	.....
31	108	21	.....	.....	.....	.....	.....
9,790	1,48,707	11,070	18,683	32,433	40,253	11,170	2,000
12,071	23,225	4,646	27,704	5,000	18,141	4,000	4,919
21,861	1,71,932	15,716	46,587	37,433	58,394	15,170	6,919

STATEMENT

—	Ahmedabad.	Kapadwanj.	Surat.	Bhiwandi.	Kurla.
1	2	3	4	5	6
28. Cost per 1,000 gls. per 100 ft. lift. As.	0·42	1·66	0·5	.....	9·64
29. Cost per 1,000 gls. maintenance charges. As.	0·75	2·5	0·58	.....	0·52
30. Cost per 1,000 gls. interest and sinking fund charges. As.	0·42	1·66	.....	.....	.....
31. Total charges per 1,000 gls. (items 29 and 30).	1·17	4·16	0·58	.....	0·52
INCOME FROM WATER WORKS.					
32. Unmetered—					
(a) Water rate recovered (assessment or ferrule). Rs.	17,23,975	18,196·5	2,00,911	2,806	.....
(b) Amount credited to water works for water used for municipal purposes. Rs.	.....	1,500	6,000	.....	.....
(c) Buildings and other receipts. Rs.	.....	4,469	12,248	.....	.....
Total ...	17,23,975	24,165·5	2,19,159	2,806	.....
33. Metered—					
(a) Sale of water by meter Rs.	1,79,261	748·5	23,957	.....	1,52,907
(b) Meter rent ... Rs.	.....	62·25	.....	.....	1,447
Total ...	1,79,261	810·75	23,957	.....	1,54,354
34. Total income (items 32 and 33) Rs.	19,03,236	24,976·25	2,43,116	2,806	1,54,354
INCOME AND WORKING CHARGES.					
35. Receipts per 1,000 gls. supplied through meter. As.	8·0	8·83	.....	.....	11·65
36. Receipts per 1,000 gls. supplied through assessment rating. As.	4·0	4·41	.....	.....	.....
37. Receipts per 1,000 gls. supplied on total consumption. As.	5·0	5·75	.....	.....	11·57
38. Profit or loss per 1,000 gls. supplied. As.	3·83	2·25	.....	.....	1·4
39. Profit or loss on years working ...	14,64,392	9,602	.....	.....	18,780

No. 1—*contd.*

Ahmed-nagar. 7	Jalgaon. 8	Dhulia. 9	Nandur-bar. 10	Nasik. 11	Trimbak. 12	Poona City. 13	Poona Contonment. 14
.....	5·0	.....	.....	15·7	.....	.....	.....
.....	0·92	8·5	1·66	2·2	.....	.....	2·75
.....	.....	.....	5·5	0·8	.....	.....	2·9
.....	0·92	8·5	7·16	3·0	.....	.....	5·65
44,320	50,470	24,616	25,324	33,678	3,633	1,74,687	13,670
.....	.....	.....	.....	5,560	.....	5,513	.....
.....	590	1,098	356	.....	3	.....	.....
44,320	51,060	25,714	25,680	39,238	3,636	1,80,200	13,670
.....	5,328	2,129	231	19,594	.....	5,406	4,18,100
.....	.....	.....	.....	1,932	.....	1,828	22,245
.....	5,328	2,129	231	21,526	.....	7,234	4,40,345
44,320	56,388	27,843	25,911	60,764	3,636	1,87,434	4,54,015
.....	6·49	3·6	8·0	6·6	.....	2·0	.....
...	2·39	3·0	5·83	2·2	.....	1·05	.....
.....	2·54	3·5	5·83	2·9	.....	0·96	8·0
.....	1·62	2·4	7·5	0·1	.....	.....	2·75
.....	36,133	21,454	5,592	2,386	.....	.....	1,11,956

STATEMENT

— 1		Kirkee. 15	Lonavla. 16	Alandi. 17	Karad. 18
28. Cost per 1,000 gls. per 100 ft. lift.	As.	.....	.....	.....	3·07
29. Cost per 1,000 gls. maintenance charges.	As.	3·4	0·42	.....	1·70
30. Cost per 1,000 gls. interest and sinking fund charges.	As.	4·58	0·75	.....	1·38
31. Total charges per 1,000 gls. (items 29 and 30).	gls.	7·98	1·17	.....	3·08
INCOME FROM WATER WORKS.					
32. Unmetered—					
(a) Water rate recovered (assessment or ferrule).	Rs.	550	7,617	.....	13,885
(b) Amount credited to water works for water used for municipal purposes.	Rs.	.....	.....	.....	.....
(c) Buildings and other receipts	Rs.	.....	13	.....	5,165
Total ...		550	7,630	.....	13,050
33. Metered—					
(a) Sale of water by meter	Rs.	1,27,574	11,716	.....	.....
(b) Meter rent ...	Rs.	6,384	462	.....	.....
Total ...		1,33,958	12,178	.....	.....
34. Total income (items 32 and 33)	Rs.	1,34,508	19,808	.....	19,050
INCOME AND WORKING CHARGES.					
35. Receipts per 1,000 gls. supplied through meter.	As.	.....	2·0	.....	5·16
36. Receipts per 1,000 gls. supplied through assessment rating.	As.	.....	8·25	.....	4·5
37. Receipts per 1,000 gls. supplied on total consumption.	As.	8·0	3·30	.....	5·54
38. Profit or loss per 1,000 gls. supplied.	As.	−0·08	2·5	.....	0·57
39. Profit or loss on years working ...		−1,387	13,251	.....	.....

No. 1—*concld.*

Satara City.	Sholapur.	Barsi.	Pandharpur.	Bijapur.	Hubli.	Matheran.	Ratnagiri.
19	20	21	23	23	24	25	26
.....	1·17	.....	1·85	1·00	2·2	4·2	.....
0·48	1·68	0·92	1·03	1·14	2·12	15·1	0·49
0·608	0·20	0·4	1·51	0·18	0·95	5·42	1·20
1·088	1·88	1·32	2·54	1·32	3·07	20·52	1·69
20,522	2,49,313	30,293	.....	28,077	86,817	905	5,121
.....	.....	.....	.....	.....	.....	.....	3,000
.....	1,859	.....	.....	.....	268	.....	55
20,522	2,51,172	30,293	.....	28,077	87,085	905	8,176
3,103	27,512	3,382	48,353	8,860	.....	20,444	.....
.....	12	.....	.....	.....	.....	1,302	.....
3,103	27,524	3,382	48,353	8,860	.....	21,746	.....
23,625	2,78,696	33,675	48,353	36,937	87,085	22,651	8,176
3·0	9·66	10·0	2·63	8·0	.....	32·5	.....
1·04	1·11	2·57	.....	2·88	.....	8·0	1·99
1·19	3·15	2·75	2·63	2·75	4·40	31·0	1·99
1·1	1·20	4·25	0·09	0·04	1·33	10·0	0·3
1,764	1,06,763	150	1,766	501	29,620	7,481	1,257

W. H. E. GARROD,
Consulting Public Health Engineer to Government.

STATEMENT No. 2.

Statement showing total demand, amount recovered, remissions and arrears of various water works in the Bombay Presidency during the year 1936-37.

Name of Water Works.	Total Demand.	Total amount recovered.	Total amount of remissions.	Arrears on 31st March 1937.		Remarks.
				Total amount.	Percentage on total demand.	
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.		
1. Ahmedabad...	20,68,406	19,03,236	40,349	1,24,827	6·5	Demand includes last year arrears.
2. Kapadwanj ...	22,203	18,197	2,838	1,342	12·37	
3. Surat ...	2,57,437	2,43,116	4,926	9,395	3·65	
4. Bhiwandi ...	5,988	2,806	.....	3,182	53·14	
5. Kurla ...	1,83,481	1,54,355	5,121	25,452	13·4	
6. Ahmednagar .	53,555	44,320	108	9,127	17·04	
7. Jalgaon ...	71,725	56,388	2,153	13,282	18·52	
8. Dhulia ...	36,088	27,843	797	8,619	23·85	Rs. 72 recovered extra.
9. Nandurbar ...	41,948	25,911	237	16,600	39·6	
10. Nasik ...	91,769	54,162	1,920	35,697	39	
11. Trimbak ...	4,180	3,633	33	513	12·0	
12. Poona City ...	1,82,832	1,77,953	.....	4,879	2·12	
13. Poona Cantonment.	4,54,000	4,54,000	.....	.....	.....	
14. Kirkee ...	1,34,500	1,34,500	.....	.....	.....	
15. Lonavla ...	27,844	19,808	25	3,013	28·7	
16. Alandi ...	.....	.....	.....	.....	.....	
17. Karad ...	23,711	19,050	219	4,331	18·2	
18. Satara City ...	36,327	23,625	239	12,306	33·9	
19. Sholapur ...	3,04,063	2,78,696	6,286	18,654	6·3	
20. Barsi ...	34,842	33,676	993	4,157	11·93	
21. Pandharpur...	48,353	48,353	.....	.....	.....	
22. Bijapur ...	51,381	36,937	.....	14,444	28	
23. Hubli ...	1,08,391	87,084	.....	21,501	19·8	
24. Matheran ...	23,820	22,651	.....	1,169	4·9	
25. Ratnagiri ...	11,631	6,544	.....	5,089	42·75	
Total ...	42,78,475	38,76,844	66,249	3,37,578	7·9	

W. H. E. GARROD,
Consulting Public Health Engineer to Government.

STATEMENT No 3.

Statement showing number and size of all connections; also number and size of metered connections for the year 1936-37.

STATEMENT

Statement showing number and size of all connections; also

Name of Water Works.	Size of				
	⅜"	½"	¾"	1"	1½"
Unmetered supplies.					
1. Ahmedabad ...	...	38,000	200	50	...
2. Kapadwanj ...	...	419	...	...	...
3. Surat ...	...	13,706	38	2	...
4. Bhiwandi ...	...	287	1	76	...
5. Kurla ...	...	...	...	...	...
6. Ahmednagar ...	...	1,530	73	21	...
7. Jalgaon ...	...	1,282	94	22	...
8. Dhulia ...	...	1,382	57	12	...
9. Nandurbar ...	...	516	13	3	...
10. Nasik ...	...	1,916	80	...	...
11. Trimbak ...	...	90	...	...	...
12. Poona City ...	...	8,307	443	206	2
13. Poona Cantonment ...	765	95	...	...	...
14. Kirkee ...	40	2	...	...	...
15. Lonavla ...	...	474	28	16	...
16. Alandi ...	...	...	...	...	...
17. Karad ...	...	648	22	8	1
18. Satara ...	...	993	3	1	...
19. Sholapur ...	...	3,965	179	...	...
20. Barsi ...	...	1,033	57	...	...
21. Pandharpur ...	...	...	...	...	...
22. Bijapur ...	...	780	3	158	...
23. Hubli ...	...	1,862	...	400	1
24. Matheran ...	...	129	63	27	1
25. Ratnagiri ...	...	262	9	5	5
Total ...	805	77,178	1,363	1,097	10

No. 3.

number and size of metered connections for the year 1936-37.

connections.						Total No.	Remarks.
2"	3"	4"	6"	8"	12"		
...	...	...	...	...	...	* 38,250	* The number is approximate.
...	...	...	...	...	...	419	
...	...	...	...	...	...	13,746	
...	...	...	...	...	...	364	
...	...	...	...	...	...	.....	
...	...	...	...	...	...	1,624	
...	...	...	...	...	...	1,398	
...	...	...	...	...	...	1,451	
...	...	...	...	...	...	532	
...	...	...	...	...	...	1,996	
...	...	...	...	...	...	90	
...	...	...	...	...	...	8,958	
...	...	...	...	...	...	860	
...	...	...	...	...	...	42	
...	...	...	...	...	...	518	
...	...	...	...	...	...	.....	
1	...	...	...	...	...	680	
...	...	...	...	...	...	997	
...	...	...	...	...	...	4,144	
...	...	...	...	...	...	1,090	
...	...	...	...	...	...	.....	
...	...	...	...	...	...	941	
...	...	...	...	...	...	1,763	
...	...	...	...	...	...	220	
...	...	...	...	...	...	281	
1	...	...	...	...	...	80,364	

STATEMENT

Name of Water Works.	Size of				
	⅜″	½″	¾″	1″	1½″
Metered supplies.					
1. Ahmedabad ...	...	31	1	6	...
2. Kapadwanj ...	...	10	...	...	...
3. Surat ...	...	445	37	4	...
4. Bhiwandi ...	...	...	...	...	...
5. Kurla ...	...	871	97	3	4
6. Ahmednagar ...	...	...	...	...	...
7. Jalgaon ...	...	12	3	6	...
8. Dhulia ...	...	11	2	2	...
9. Nandurbar ...	...	4	2	3	...
10. Nasik ...	...	153	56	33	...
11. Trimbak ...	...	...	...	...	...
12. Poona City ...	...	231	19	10	...
13. Poona Cantonment ...	746	700	336	420	139
14. Kirkee ..	39	532	124	48	24
15. Lonavla ...	...	3	35	42	...
16. Alandi ...	...	...	...	...	...
17. Karad ...	...	...	...	...	...
18. Satara ...	...	...	...	...	...
19. Sholapur ...	..	4	3	10	...
20. Barsi ...	...	8	5	4	2
21. Pandharpur ...	...	...	...	...	...
22. Bijapur ...	...	118	...	4	...
23. Hubli ...	...	...	...	...	...
24. Matheran ...	...	...	...	...	...
25. Ratnagiri ...	...	...	...	...	...
Total ...	785	3,133	720	595	169

No. 3—*concld.*

connections.						Total No.	Remarks.
2″	3″	4″	6″	8″	12″		
20	50	46	2	...	...	156	
...	...	...	...	...	...	10	
5	2	...	...	...	...	493	
...	...	...	...	...	...	.....	
...	...	...	...	...	...	975	
...	...	...	...	...	...	.....	
...	...	2	...	...	...	23	
4	1	...	...	...	...	20	
...	...	...	...	...	...	9	
...	...	...	...	...	...	242	
...	...	...	...	...	...	.....	
6	3	...	...	...	...	269	
85	75	6	4	1	...	2,512	
14	14	3	4	...	1	803	
...	...	...	...	...	...	80	
...	...	...	...	...	...	.....	
...	...	...	...	...	...	.....	
...	...	1	...	...	...	1	
2	5	...	...	...	...	24	
3	1	...	...	...	...	23	
...	...	...	...	...	...	.....	
...	...	...	...	...	...	122	
...	...	...	...	...	...	.....	
...	...	...	...	...	...	.....	
...	...	...	...	...	...	.....	
139	151	58	10	1	1	5,762	

W. H. E. GARROD,
Consulting Public Health Engineer to Government.

STATEMENT

Annual Maintenance Accounts of Water Works

Particulars.	Ahmedabad.	Kapadwanj.	Surat.
	Rs.	Rs.	Rs.
I. *Establishment—*			
(*a*) Pumping	29,970		10,513
(*b*) Workshops	5,500		.....
(*c*) Settling tanks and filters ...	.....		.....
(*d*) Inlet chambers, well and grounds, etc.	2,000		.....
(*e*) Distribution	23,150	5,938	7,633
(*f*) Clerical staff	684		780
(*g*) Menial	492		156
(*h*) Office accommodation ...	3,000		.....
(*i*) Rent	444		.....
II. *Fuel, lubricants and stores—*			
(*a*) Fuel (coal, fuel oil or electric energy).	1,14,181	2,231	28,156
(*b*) Lubricating oil	3,022	514	1,127
(*c*) Waste	4,136	45	99
(*d*) Packing		209	361
(*e*) Petty Stores			3,989
III. *Intake—*			
(*a*) Training river	5,949	.....	.....
(*b*) Cleaning channels and wells ...	10,683	.....	375
IV. *Settling tanks and filters—*			
(*a*) Cleaning settling tanks and wells.	.....	.....	.....
(*b*) Cleaning and renewing filter beds.	.....	.....	.....
(*c*) Purchase of sand	.....	.....	.....
(*d*) Purchase of bleaching powder ...	6,475	444	.....
V. *Distribution—*			
(*a*) Pipes and fittings	61,512	.....	.....
(*b*) Meters	374	1,089	.....
(*c*) Standposts or hydrants ...	6,251	.....	.....

No. 4.

in the Bombay Presidency during 1936-37.

Bhiwandi.	Kurla.	Ahmednagar.	Jalgaon.	Dhulia.	Nandurbar.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
.....	.....	2,457	14,103	.....	750
.....	.....		.....	.....	.....
.....	.....	384	.....	480	.....
.....	.....	.....	.....	60	192
	2,038	480	.....	1,140	504
	517	.....	172	343	216
219	940	.....	1,283	727	.....
	.....	.....	.....	.....	.....
	.....	.....	.....	.....	723
.....	.....			.....	820
.....	.....			.....	435
.....	.....	3,224	3,804	.....	100
.....	.....			.....	.....
.....	106			.....	150
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	1,227
.....	.....	.....	.....	.....	.....
25	.....	.....	.....	286	.....
.....	.....	.....	.....	.....	.....
.....	.....	958	.....	1,470	218
.....	2,976	1,265	.....	1,025	628
.....	384	.....	.....	.....	.....
.....	25	.....	.....	.....	160

STATEMENT

Particulars.	Nasik.	Trimbak.	Poona City.
	Rs.	Rs.	Rs.
I. *Establishment*—			
(*a*) Pumping	7,586		.....
(*b*) Workshops	.....		.....
(*c*) Settling tanks and filters ...	.....		.....
(*d*) Inlet chambers, well and grounds, etc.	.....		.....
(*e*) Distribution	1,700	921	.....
(*f*) Clerical staff	600		.....
(*g*) Menial	700		.....
(*h*) Office accommodation ...	.....		.....
(*i*) Rent	.....		.....
II. *Fuel, lubricants and stores*—			
(*a*) Fuel (coal, fuel oil or electric energy).	21,321	384	.....
(*b*) Lubricating oil	440	150	.....
(*c*) Waste	2,041	.....	.....
(*d*) Packing		.....	.....
(*e*) Petty Stores		50	.....
III. *Intake*—			
(*a*) Training river	3,621	.....	.....
(*b*) Cleaning channels and wells ...	2,737	.....	.....
IV. *Settling tanks and filters*—			
(*a*) Cleaning settling tanks and wells.	.....	.....	.....
(*b*) Cleaning and renewing filter beds.	.....	.....	.....
(*c*) Purchase of sand	.....	.....	.....
(*d*) Purchase of bleaching powder ...	956	107	.....
V. *Distribution*—			
(*a*) Pipe and fittings	1,615	.....	.....
(*b*) Meters	1,053	.....	.....
(*c*) Standposts or hydrants ...	530	79	.....

No. 4—*contd.*

Poona Cantonment.	Kirkee.	Lonavla.	Alandi.	Karad.	Satara City.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
7,254	2,113	.....	1,918	2,532	.....
		.....	.....	.....	.....
		.....	.....	144	611
		.....	.....	.....	1,514
38,753	21,417	2,002	.....	276	695
			.....	258	204
			.....	23	1,681
		.....	.....	.....	.....
		.....	.....	.....	.....
30,906	3,617	.....	158	1,232	.....
864	1,027	.....	150	525	.....
		.....	.....	225	.....
10,592	1,325	.....	.....	252	.....
		24	.....	475	.....
.....	.....	.....	.....	168	.....
.....	.....	.....	.....	22	274
494	1,331	30	.....	107	2,394
1,854	1,850	.....	.....	335	
.....	.....	.....	.....	542	.....
9,202	8,498	31	44	212	.....
4,721	1,200	.....	.....	.....	.....
5,189	3,535	.....	.....	.....	.....
2,068	1,031	75	.....	.....	.....

STATEMENT

Particulars.	Sholapur.	Barsi.	Pandharpur.
	Rs.	Rs.	Rs.
I. *Establishment—*			
(*a*) Pumping	10,850	.....	6,250
(*b*) Workshops	3,219	.....	.....
(*c*) Settling tanks and filters ...	.....	.....	.....
(*d*) Inlet chambers, well and grounds, etc.	.....	.....	.....
(*e*) Distribution	6,217	499	.....
(*f*) Clerical staff	1,176	.....	480
(*g*) Menial	275	.....	408
(*h*) Office accommodation ...		.....	.....
(*i*) Rent		.....	288
II. *Fuel, lubricants and stores—*			
(*a*) Fuel (coal, fuel oil or electric energy).	27,332		4,821
(*b*) Lubricating oil	2,732		1,439
(*c*) Waste	357	217	194
(*d*) Packing			62
(*e*) Petty Stores			1,120
III. *Intake—*			
(*a*) Training river	.....	.....	.....
(*b*) Cleaning channels and wells ...	.....	170	75
IV. *Settling tanks and filters—*			
(*a*) Cleaning settling tanks and wells.	.....	53	.....
(*b*) Cleaning and renewing filter beds.	.....	.....	.....
(*c*) Purchase of sand	.....	.....	.....
(*d*) Purchase of bleaching powder ...	34,676	629	944
V. *Distribution—*			
(*a*) Pipe and fittings	8,447	.....	.....
(*b*) Meters		.....	.....
(*c*) Standposts or hydrants ...		.....	.....

No. 4—*contd.*

Bijapur.	Hubli.	Matheran.	Ratnagiri.	Remarks.
Rs.	Rs.	Rs.	Rs.	
4,857	3,541	2,664	.....	
216	.....	.....	.....	
216	372	732	.....	
180	360	.....	.....	
908	3,708	408	500	
.....	4,656	1,363	360	
.....	.....	.....	.....	
540	.....	.....	.....	
280	.....	.....	.....	
16,575	16,193	783	.....	
2,196		289	.....	
		123	.....	
2,225	2,488	.....	.....	
		494	180	
.....	.....	.....	.....	
.....	.....	.....	60	
811	.....	...	60	
.....	.....	.....	.....	
49	.....	.....	.....	
1,760	622	35	100	
.....	821	.....	275	
.....	.....	.....	35	
.....	3,892	.....	.....	

STATEMENT

Particulars.	Ahmedabad.	Kapadwanj.	Surat.
	Rs.	Rs.	Rs.
VI. *Repairs*—			
(*a*) To Tanks	6,000	.....	201
(*b*) To buildings	592	37	2,184
(*c*) To machinery	3,312	.....	1,074
(*d*) To rising main	500	.....	.....
(*e*) To tools and plants ...	3,180	13	.....
VII. *Water Analyses*	6,000	.....	.....
VIII. *Cost of water*	.....	.....	.....
Canal department dues	.....	.....	.....
Total ...	2,97,407	10,520	56,648
Interest and sinking fund charges ...	1,41,437	4,000	.....
Grand Total ...	4,38,844	14,520	56,648

No. 4—*contd.*

Bhiwandi.	Kurla.	Ahmednagar.	Jalgaon.	Dhulia.	Nandurbar.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
170	.....		205		41
.....	.....		636		.....
.....	.....	2,064	20	250	750
.....	.....		32		.....
.....	.....		.....		.....
//					
.....	.....	.....	.....	600	399
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
414	6,986	10,832	20,255	6,381	7,303
.....	.....	51,000	.....	.....	24,000
414	6,986	61,832	20,255	6,381	31,303

STATEMENT

Particulars.	Nasik.	Trimbak.	Poona City.
	Rs.	Rs.	Rs.
VI. *Repairs*—			
(a) To tanks	.....	.....	.....
(b) To buildings	.....	.....	.....
(c) To machinery	.....	227	.....
(d) To rising main	.....	.....	.....
(e) To tools and plants ...	.....	.....	.....
VII. *Water Analyses*	900	71	1,000
VIII. *Cost of water*	.....	.....	.....
Canal department dues	.....	.....	.....
Total ...	45,800	1,989	1,000
Interest and sinking fund charges ...	17,300	1,410	.....
Grand Total ...	63,100	3,399	1,000

No. 4—*contd.*

Poona Cantonment.	Kirkee.	Lonavla.	Alandi.	Karad.	Satara City.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
360	1,627	87	.....	1,422	.....
1,694	33		.....	317	.....
1,509	1,717	Nil.	.....	682	.....
500	1,603		.....	.....	.....
.....	.....	.....	.....	201	.....
5,100	4,300	.....	300	180	.....
48,409	6,137	113	.....	.....	.....
.....	.....	.....	.....	.....	.....
1,69,960	57,411	2,362	2,570	10,631	7,373
1,72,084	78,476	4,195	1,308	8,669	.....
3,42,044	1,35,887	6,557	3,878	19,300	7,373

STATEMENT

Particulars.	Sholapur.	Barsi.	Pandharpur.
	Rs.	Rs.	Rs.
VI. *Repairs*—			
(a) To tanks	.....	1	920
(b) To buildings	271	.....	640
(c) To machinery	1,560	14	243
(d) To rising main	.....	57	.....
(e) To tools and plants ...	.....	.....	.....
VII. *Water Analyses*	.....	17	.....
VIII. *Cost of water*	51,591	9,418	1,000
Canal department dues	.....	.....	.....
Total ...	1,48,703	11,070	16,884
Interest and sinking fund charges ...	23,225	4,646	27,704
Grand Total ...	1,71,928	15,715	46,588

GENERAL AND [illegible] DEPTS.,
SECRETARY'S LIBRARY:
No. 160

No. 4—*concld.*

Bijapur.	Hubli.	Matheran.	Ratnagiri.	Remarks.
Rs.	Rs.	Rs.	Rs.	
50	.....		45	
635	.....		15	
900	3,600	4,109	.....	
.....	.....		5	
100	.....		.....	
.....	.....	170	215	
.....	.....	.....	150	
.....	.....	.....	.....	
32,433	40,253	11,170	2,000	
5,000	18,141	4,000	4,919	
37,433	58,394	15,170	6,919	

W. H. E. GARROD,

Consulting Public Health Engineer to Government.

STATEMENT No. 5.

Statement showing costs, initial and of subsequent extensions and improvements chargeable to Capital.

1936-37.

1	Water Works Installations. 2	Initial Capital cost. 3	Cost of subsequent extensions. 4	Expenditure during the year. 5	Total. 6
		Rs.	Rs.	Rs.	Rs.
1	Ahmedabad ...	22,00,000	24,00,000	2,32,295	48,32,295
2	Kapadwanj ...	4,74,631	5,270	1,089	4,80,990
3	Surat ...	9,88,319	2,91,470	.....	12,79,789
4	Bhiwandi ...	42,000	36,000	170	78,170
5	Kurla ...	.....	.....	.....	.....
6	Ahmednagar ...	.....	.....	.....	.....
7	Jalgaon ...	.....	.....	.....	.....
8	Dhulia ...	5,01,558	.....	.....	5,01,558
9	Nandurbar ...	3,75,051	.....	4,979	3,80,030
10	Nasik ...	5,50,000	1,84,957	2,875	7,37,832
11	Trimbak ...	.....	.....	.....	.....
12	Poona City ...	.....	.....	.....	.....
13	Poona Cantonment ...	6,90,000	8,50,000	7,688	15,47,688
14	Kirkee ...	4,00,000	4,60,000	10,124	8,70,124
15	Lonavla ...	.....	.....	.....	.....
16	Alandi ...	86,253	.....	10,000	96,253
17	Karad ...	2,44,000	11,000	.....	2,55,000
18	Satara City ...	.....	.....	.....	.....
19	Sholapur ...	21,19,537	.....	1,35,914	22,55,451
20	Barsi ...	5,51,421	.....	3,747	5,55,168
21	Pandharpur ...	1,53,000	62,900	.....	2,15,900
22	Bijapur ...	6,18,000	2,52,580	1,88,580	10,59,160
23	Hubli ...	5,01,924	5,15,504	821	10,18,249
24	Matheran ...	3,32,443	39,536	9,202	3,81,181
25	Ratnagiri ...	1,09,486	.....	.....	1,09,486
	Total ...	1,09,37,623	51,09,217	6,07,484	1,66,54,324

W. H. E. GARROD,

Consulting Public Health Engineer to Government.

STATEMENT No. 6.

Details of pumps, filters, tanks, reservoirs, mains and other details of Water Works in the Bombay Presidency for 1936-37.

STATEMENT

Details of pumps, filters, tanks, reservoirs, mains and other

Particulars.	Ahmedabad.	Kapadwanj.	Surat.
1. Floor levels—			
Unfiltered Station ... R. L.	.....	92·89	.....
Filtered Station ... R. L.	.....	56·15	118·00
2. Highest water level during the year. R. L.	80·00	66·00	.....
3. Lowest water level during the year. R. L.	72·00	191·33	.....
4. Particulars of plant—			
Unfiltered Station ...	.....	.....	.....
Filtered Station ...	3 Plants—D. F. & G. Hathorn Davy's Triple Expansion Surface condensing vertical inverted type with Corless valves and 1 Horizontal Triple expansion side by side Tendem, Surface Condensing Pumping Engine. Worthington type. *Electrical—* 5 H. Lift pumps with motors (vertical drive) High lift sets. H.P. 300 (2) and 190 (3). 2 Low Lift vertical pumping sets for V. G. Tanks H.P. 150 each (Siemen's make). 3 Boosters electrical drive horizontal pumping sets H.P. 125 (1) and 75 (2) Crompton Parkison.	A duplicate set of Campbell Cold Starting Horizontal Crude Oil Engines of 37 B.H.P. and two deepwell Worthington Plunger Pumps.	Two sets of Engines and Pumps. Engine—High Pressure Triple Expansion Vertical Surface Worthington Steam Pumping Engines. 2 Boilers—Babcock and Wilcox type.
5. Capacity of Pump—			
Unfiltered Station ... G. P. M.	D. 210,000 G. P. M. E. 360,000 ,, F. 210,000 ,, G. 210,000 ,,	.....	350,000 G.P.M.
Filtered Station ... G. P. M.	*Electrical Sets—* 1. 300,000 G. P. M. 2. 300,000 ,, 3. 200,000 ,, 4 & 5. 200,000 ,, each. 6 & 7. 200,000 ,, each. *Booster Nos.—* 1 & 2. 100,000 G. P. M. each. 3. 200,000 ,,	330 G. P. M.	5832 G. P. M.

No. 6.

details of Water Works in the Bombay Presidency for 1936-37.

Bhiwandi.	Kurla.	Ahmednagar.	Jalgaon.	Dhulia.
.....	.....	.....	.....	.....
.....	.....	.....	.....	1108·32
.....	.....	2249·30	.....	1137·00
.....	.....	2244·30	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	Duplicate set of electric motor of 125 B.H.P. and Centrifugal Pumps.	.....
.....	.....	.....	.....	.....
.....	.....	.....	833 G. P. M.	.....

STATEMENT

Particulars.		Nandurbar.	Nasik.	Trimbak.
1. Floor levels—				
Unfiltered Station	... R. L.	.....	1863·00	.....
Filtered Station	... R. L.	.....	1813·00	.....
2. Highest water level during the year.	R. L.	.....	1844·00	9 ft.
3. Lowest water level during the year.	R. L.	.....	1833·00	3 ft.
4. Particulars of plant—				
Unfiltered Station	...	.....	.....	.....
Filtered Station	..	.....	Triple Expansion Surface Condensing Engine Nos. 2934 and 2935. Worthington Pumps 2 Nos. Babcock Wilcox Boilers 2 Nos.	.....
5. Capacity of Pump—				
Unfiltered Station	... G. P. M.	8,000 G. P. M. 16,000 G. P. M.	.....	160 G.P.M.
Filtered Station	... G. P. M.	.....	796·8 G. P. M.	.....

No. 6—*contd.*

Poona City.	Poona Cantonment.	Kirkee.	Lonavla.	Alandi.
211·74	1875·00	.....	High Level Tank 2092·46. Khandala Reservoir 1841·00. Mahadeo Reservoir 2072·50.	1953·75 (Engine House).
.....	1877·49	1804·06	.....	.....
221·74	1876·49	.....	2273·83	1940·00 Approximately.
211·74	1876·40	.....	2248·50	.....
Mather and Platt electric R. C. motors 60 B.H.P. 11/9 suction and delivery.	2 W. Sisson Engines each capable of delivering 3000 G.P.M. against 40 ft. head.	By gravity from Pashan from Mutha Right Bank Canal.	.....	.....
	2 B. and Morcom Engines with Worthington Pumps. Capacity 4,500 G.P.M. against 40 ft. head.			
.....	.....	.....	.....	.....
.....	3 Worthington Engines and Pumps.	2 sets of Ruston Oil Engines with Centrifugal Pumps.	.....	.....
135,000 G. P. M.	3,000 G. P. M.	.....	.....	100 G. P. M.
.....	1,200 G. P. M. 1,200 G. P. M. 2,080 G. P. M.	1050 G. P. M. 1050 G. P. M.	.....	.....

STATEMENT

Particulars.	Karad.	Satara City.	Sholapur.	Barsi.
1. Floor levels—				
Unfiltered Station ... R. L.	.....	.....	1483	.....
Filtered Station ... R. L.	.....	.....	.....	.....
2. Highest water level during the year. R. L.	112·39	.....	.....	.....
3. Lowest water level during the year. R. L.	72·39	.....	.....	.....
4. Particulars of plant—				
Unfiltered Station ...	.....	.....	.....	.....
Filtered Station ...	.....	.....	2 Engines of Ruston and Hornsby Cold Starting 150 B.H.P. each with Mather and Platt two stage Centrifugal Pumps.	.....
5. Capacity of Pump—				
Unfiltered Station ...G.P.M.	420 G. P. M.	.....	1500 G.P.M.	.....
Filtered Station ...G.P.M.	400 G.P.M.	.....	.....	.....

No. 6—*concld.*

Pandharpur.	Bijapur.	Hubli.	Matheran.	Ratnagiri.
163·96 Engine house and Pump floor 119·06.	.....	.....	.....	.....
.....	1892·02	2033·50	2636	.....
132·7 R. L. River.	1843·00	2070·12	.....	406·00
110·0 , Do.	1841·21	2063·34	.....	392·00
Two sets of pumps Worthington single acting vertical triplex 14½" × 15" driven by two Ruston Cold Starting Oil Engines 84 and 76 B.H.P.	.....	.....	Ruston and Hornsby Oil engines in duplicate; each of 52 B.H.P. Worthington and Simpson pumps.	.....
.....	Two sets of engines and pumps working side by side. Tandom fashion triple expansion surface condensing engines with horizontal plunger pumps double acting. Two Babcock water tube boilers with super heater and economiser complete.	Worthington Triple expansion engines with Worthington duplicate double acting pumps.	.....	.....
.....	.....	.....	.....	.....
.....	38 G.P.M.	.....	210 G.P.M.	.....

STATEMENT

Particular.	Ahmedabad.		Kapadwanj.		Surat.	
6. Number of—						
(a) Rising Main ..	One		One ...		One ...	
(b) Leading Mains ...	Two		One ...		One ...	
(c) Distribution Mains ...	36' to 3' of 5 miles		.....		.....	
7. Length and Size of—						
(a) Rising Mains ...	Length in ft. 450	Size in inches. 36	Length. 6,360	Size. 9	Length. 403	Size. 22
(b) Distribution Mains ...	5 miles	42" to 27"	... ...		328,213	2" to 36"
8. Number of Settling tanks ...	.....		.....		.....	
9. Size of Settling tanks ...	.....		.....		.....	
10. Capacity of settling tanks, gallons.	.....		.....		.....	
11. Number of—						
(a) Slow sand filters ...	.....		.....		.....	
(b) Paterson filters ...	.....		.....		.....	
(c) Mechanical filters ...	.....		.....		.....	
12. Size of—						
(a) Slow sand filters ...	.....		.....		.....	
(b) Paterson filters ...	.....		.....		.....	
(c) Mechanical filters ...	.....		.....		.....	

No. 6—*contd.*

Bhiwandi.	Kurla.	Ahmednagar.	Jalgaon.	Dhulia.
Two ...	.....	.....	One ...	.....
.....	One ...	230	One ...	.....
.....	Six ...	... ..	.....	.....
Length. Size. 1. 980' 12' 2. 5,920' 6'	Length. Size.	Length. Size. 91 Nos. 12' 78 ,, 10' 61 ,, 8'	Length. Size. 19,406 12'	... ...
.....	754 2' 19,336 3' 11,816 4' 7,181 6' 1,496 8' 1,364 9'	817 12' 698 10' 546 8' 2,650 8' 8,666 6' 32,031 4'	.....	.....
.. ..	.....	.....	.....	One.
.....	.....	.....	.....	14'×14'×8'
.....	.....	.....	.....	9,800
.....	.....	.....	.....	Four.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	80'×40'
.....	.....	.....	.....	.... .
.....	.....	.....	.....	.....

STATEMENT

Particular.	Nandurbar.	Nasik.	Trimbak.
6. Number of—			
(a) Rising Main ...	Two ...	One ...	One ...
(b) Leading Mains ...	.....	Four ...	.....
(c) Distribution Mains ...	.....	Six ...	One ...
7. Length and Size of—	Length. Size.	Length. Size.	Length. Size.
(a) Rising Mains ...	450' 4" 100' 4"	6,600 12"	250' 8"
(b) Distribution Mains ...	.....	2,300 7" 3,500 6" 6,100 5" 12,300 4" 53,850 3" 2,900 2"	.....
8. Number of Settling tanks ...	.....	.....	.....
9. Size of Settling tanks ...	.....	.....	.....
10. Capacity of settling tanks gallons.	.....	.....	.....
11. Number of—			
(a) Slow sand filters ...	.....	.....	.....
(b) Paterson filters ...	.....	.....	.....
(c) Mechanical filters ...	.....	.....	.....
12. Size of—			
(a) Slow sand filters ...	.....	.....	.....
(b) Paterson filters ...	.....	.....	.....
(c) Mechanical filters ...	.....	.....	.....

No. 6—*contd.*

Poona City.	Poona Cantonment.	Kirkee.	Lonavla.	Alandi.
Two ...	Three ...	One ...	One ...	One
One ...	21' to 9' ...	21' to 9' ...	One ...	.....
Two ...	9' to 3' ...	9' to 3' ...	Three ..	Four
Length. Size.	Length. Size.	Length. Size.	Length. Size.	Length. Size.
1,400' 12' 1,400' 14'	1,090' 18' 4,645' 15' 4,512' 12'	4,850' 12'	343' 12'	1,350' 9' 1,890' 6' 1,990' 4'
36' to 3' and 2' ...	77,275' 3' 42,595' 4' 2,110' 5' 41,069' 6' 58,412' 9' 8,408' 12' 9,112' 15' 5,350' 18' 3,030' 21'	32,060' 3' 7,400' 4' 4,245' 6' 22,250' 9' 15,420' 10' 16,060' 12' 860' 15' 23,540' 15' 130' 18'	One of 5' and others of 4' and 3'	4' – 900' 3' – 325' 2' – 3,929'
Two ...	Five ...	One ...	Four ...	...
480' × 250' ...	183' × 89' × 12' ...	125' × 50' × 20' ...	3 × 25' × 35·5' × 8' ... 2 × 25' × 12·6' × 8' 21·3' × 21·5' × 5' 2 × 27' × 26' × 8'	.....
10 M. Gls. each ...	5·8 M.G. ..	0·43 M.G. ...	1 = 100,0 0; 2 = 6,000 3 = 11,000; 4 = 33,000	.....
.....	.....	4 at Pashan ...	Nil ...	.....
.....	11 units ...	4 units at H.B. ...		
.....	.....	.....		
.....	.....	108 × 5' each ...	Nil ..	... ..
.....	10 of 18' × 10' 1 of 30' × 21'-3' ...	3 of 18' × 10' ...		
.....	.....	.....		

STATEMENT

Particular.	Karad.	Satara City.	Sholapur.	Barsi.
6. Number of—				
(a) Rising Main	One	.....	.....	.....
(b) Loading Mains	.....	Two	Two	Nil
(c) Distribution Mains	Not available.	.....	.....	.....
7. Length and Size of—				
(a) Rising Mains	8"—1,800'	12"-3,915' 9"-6,400'	24"-11,000' 12"-4,000'	.....
(b) Distribution Mains	Not available.	.....	30"-2,700' 24"-3,700' 21"-5,218' 18"-1,710' 15"-17,123' 12"-25,370' 9"-3,500' 8"-3,000' 6"-39,128' 4"-35,466' 3"-54,325' 2"-13,874'	12"-2,420' 9"-2,335' 8"-1,440' 6"-5,000' 5"-3,048' 4"-6,503' 3"-6,8..5'
8. Number of Settling tanks	One	Three	Two	.....
9. Size of Settling tanks	30' × 54·5' × 9'	72' × 24' × 9·5'	148' × 72' × 10	.....
10. Capacity of settling tanks, gallons.	175,000	102,600 each	130,000 each	.....
11. Number of—				
(a) Slow sand filters	4	.....	.....	.....
(b) Paterson filters	.....	.....	.....	.....
(c) Mechanical filters	.....	.....	.....	.....
12. Size of—				
(a) Slow sand filters	46' × 26' × 8'	.....	.....	.....
(b) Paterson filters	.....	.....	.....	.....
(c) Mechanical filters	.....	.....	.....	.....

NO. 6—*contd.*

Pandharpur.	Bijapur.	Hubli.	Matheran.	Ratnagiri.
.....	.....	Two ...	One ...	.....
One ...	One ...	Two ...	One ...	9'
One ...	8	.....	Three ...	6', 4', 3', 2'
15' - 5,550' ...	16' - 21,000' ...	15' - 13,460' ... 12' - about 1½ miles.	6' - 3,830' ...	.....
.....	14' - 1,120' ... 12' - 131' ... 10' - 1,789' ... 6' - 3,531' ... 5' - 4,663' ... 4' - 5,281' ... 3' - 34,046' ... 2' - 6,666' ...	10' to 3' about 11 miles.	3 of 56,760' ...	6', 4', 3', 2' - length not given.
.....	.....	Two ...	.....	.....
.....	.....	60·5' x 22·5' x 15·5' ...	.....	.....
.....	.....	241,936 ...	.....	.....
.....	4	.....	.....	.....
.....	.....	.....	One unit ...	.....
.....	.....	Jewel Rapid filters.	.....	.....
.....	50' x 50' ...	.....	.....	.....
.....	.....	.....	15' x 10' ..	.....
.....	.....	15' dia. ...	.....	.....

STATEMENT

Particulars.	Ahmedabad.	Kapadvanj.	Surat.
13. Number of clear water reservoirs.	Three	.....	Two ...
14. Size of water (clear) reservoirs.	112' × 90'	.....	42·5' × 15' ...
15. Capacity of clear water reservoirs, gallons.	300,000	.....	150,000 ...
16. Number of service reservoirs ...	Three	One ...	.....
17. Size of service reservoirs ...	60' × 18' 42' × 15' 120' 120' × 12'	36' × 18' ...	.....
18. Capacity of service reservoirs .	1,485,000 gls. (3 tanks) ...	100,000 ...	.....
19. Number of Public standposts :—			
One tap	180	.....	.....
Two taps	80	.....	.....
Four taps	2	.....	.....
W. N. Cocks	40	.....	.....
Bibcocks	.....	.....	.....
Pushcocks	80	.....	.....
Wall fountains	... ..	.....	.....
Other types	.....	.....	.....
Total ...	332	44	.....
20. Number of fire hydrants ...	505	49	.....
21. Number of road watering posts or standposts.	700	113	.....
22. Number of cattle troughs ...	50	8	.....

No. 6—*contd.*

Bhiwandi.	Kurla.	Ahmednagar.	Jalgaon.	Dhulia.
One ...	.....	.....	.....	One ...
27' × 22·5' × 16·5' ...	.....	.....	.....	22' × 5' × 10' ...
.....	.....	.....	.....	6,875 ..
.....	.....	One of two compartments.	1 in two compartments.	Two ..
.....	.....	70' × 70' × 10' ...	72·5' × 59·4' × 10' ...	56·5' × 19' × 10' ..
.....	.....	612,500 ...	538,040 ..	800,000 ...
4	14	31	18	201
37	1	45	100	30
1	.....	6	8	2
42	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	9	.....	.....
.....	.....	15	.....	.....
.....	.....	42	.....	.....
84	15	148	126	233
5	99	39	45	71
.....	.....	10	1	.....
.....	.....	16	5	9

STATEMENT

Particulars.	Nandurbar.	Nasik.	Trimbak.
13. Number of clear water reservoirs.	One in 2 compartments.	.....	.....
14. Size of water (clear) reservoirs ...	60' × 24' × 44' ... 59' × 46' × 35'	.....	.....
15. Capacity of clear water reservoirs, gallons.	125,000 ...	.. ...	.....
16. Number of service reservoirs ...	1 in 2 compartments.	Two ...	1 in 2 compartments.
17. Size of service reservoirs ...	60' × 24' × 44' ... 59' × 46' × 35'	42' × 27' × 8' .. 24' × 20' × 8'	24' × 15' × 6·75' ...
18. Capacity of service reservoirs ...	125,000 ...	1 - 50,000 ... 1 - 24,000	30,000 ...
19. Number of Public standposts :—			
One tap	.....	26	5
Two taps	56	111	27
Four taps	3	15	10
W. N. Cocks	.....	.....	.....
Bibcocks	.....	.....	.....
Pushcocks	.....	.....	.....
Wall fountains	.....	.....	.....
Other types	.....	14	1
Total ...	59	166	43
20. Number of fire hydrants ...	52	55	.....
21. Number of road watering posts or standposts.	.....	.....	1
22. Number of cattle troughs ...	5	4	5

No. 6—*contd.*

Poona City.	Poona Cantonment.	Kirkee.	Lonavla.	Alandi.
Three ...	Two ...	One ...	4 ...	.....
280' × 40' × 10' 52' × 40' × 8' 50' × 50' × 12' ...	280' × 98' × 8' ...	70' × 45' × 4' ...	.....	.....
500,000 in all ...	1 M. G. ...	0·08 M. G. ...	H. L. R. Mahadeo. 11,000 100,000	.....
Three ...	Five ...	One ...	Four ...	7
.....	100' × 10'; 80' × 14'; 50' × 8'; 32' × 10'; 36' × 16'.	60' × 60' × 12' ...	.....	.....
2 of 200,000 1 of 100,000 ...	1 – 989,112 ... 1 – 30·,221 1 – 244,562 1 – 100,000 1 – 50,000	270,000 ...	1 of 11,000; ... 1 of 100,000; 1 of 6,000; 1 of 33,000.	66,200
176	.....	.....	29	.....
81	.....	.....	5	.....
12	.....	.....	.....	4
.....	.....	.....	34	150
All bibcocks ...	.....	.....	.....	75
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	5
269	.....	.....	69	234
337	435	105	22	.....
26	.....	.....	4	.....
10	.....	.....	2	.....

STATEMENT

Particulars.	Karad.	Satara City.	Sholapur.	Barsi.
13. Number of clear water reservoirs.	1	Three	.....	.....
14. Size of water (clear) reservoirs.	71·5' × 50' × 6·5'	74' × 24' × 9·5' each.	.....	.....
15. Capacity of clear water reservoirs, gallons.	140,000	300,000	.....	.....
16. Number of service reservoirs.	1 in 2 compartments.	1 in 2 compartments.	Four	1 in 2 compartments.
17. Size of service reservoirs	62' × 31' × 7·5'	70' × 55' × 10'	162' × 82' × 20' 36' × 12' 57' × 57' × 10' 95' × 12'	70' × 82' × 11'
18. Capacity of service reservoirs.	90,000	80,000	26·25 lakhs	400,000
19. Number of Public standposts:—				
One tap	58	111	225	69
Two taps	5	9	63	17
Four taps	20	.....	1	1
W. N. Cocks	.....	7	.....	1
Bibcocks	.....	66	.....	105
Pushcocks	.....	38	394	.....
Wall fountains	.....	.....	.....	.....
Other types	.....	37	3	.....
Total	83	268	686	193
20. Number of fire hydrants	38	.....	140 22	16
21. Number of road watering posts or standposts.	.....	10	.....	15
22. Number of cattle troughs	2	7	29	16

No. 6—*concld.*,

Pandharpur.	Bijapur.	Hubli.	Matheran.	Ratnagiri.
.....	2 ...	2 ...	.....	.....
.....	60' × 60' × 10' ...	120' × 56' × 6' ...	.....	.....
.....	112,500 ...	50,000 ...	.....	.....
3 ...	1 in 2 compartments.	Two ...	1 in 2 compartments.	1
106' × 102' × 9' 2 of 106' × 52' × 9' ...	80' × 30' × 10' each compartment. ...	1 of 120' × 112' × 6' 1 of 120' × 120' × 12'	24' × 24' × 10' each.	100' × 100' × 7'
150,000 ...	150,000 ...	1,500,000 ...	89,000 ...	437,500
.....	35	335	3	.....
.....	161	54	.....	.....
.....	.....	6	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	196	445	3	.....
.....	35	93	.....	.....
.....	2	.....	.....	.....
.....	19	4	1	.....

W. H. E. GARROD,
Consulting Public Health Engineer
to Government.

STATEMENT No. 7.

Detailed estimate of expenditure incurred on Public Health Works during the year 1936-37.

Serial No.	Name of Place.	Water Works Original and Special Repairs.	Water Works Maintenance.	Drainage Works.	Other Works.	Total.	Remarks.
1	2	3	4	5	6	7	8
		Rs.	Rs.	Rs.	Rs.	Rs.	
1	Ahmedabad ...	2,32,295	74,747	2,19,000	42,605	5,68,647	
2	Kapadwanj ...	.....	.....	...	...	.....	
3	Surat ...	.....	56,649	...	23,558	80,207	
4	Bhiwandi ...	170	414	...	...	584	
5	Kurla ...	.....	6,986	2,869	...	9,855	
6	Ahmednagar ...	821	10,832	3,884	4,983	20,520	
7	Jalgaon ...	92,895	20,255	...	...	1,13,151	
8	Dhulia ...	.....	6,389	5,960	...	12,349	
9	Nandurbar ...	4,979	7,303	4,026	...	16,308	
10	Nasik ...	3,675	700	13,939	...	18,314	
11	Trimbak ...	.....	.....	...	...	.....	
12	Poona City ...	.....	.....	...	...	.....	
13	Poona Cantonment ...	17,514	2,27,371	...	...	2,44,885	
14	Kirkee ...						
15	Lonavla ...	.....	2,362	526	...	2,888	
16	Alandi ...	10,000	4,908	...	...	14,908	
17	Karad ...	.....	10,631	...	...	10,631	
18	Satara City ...	.....	9,790	...	...	9,790	
19	Sholapur ...	1,32,525	1,48,707	25,400	..	3,06,632	
20	Barsi ...	3,747	11,070	1,399	...	16,216	
21	Pandharpur ...	.....	18,883	...	...	18,883	
22	Bijapur ...	1,88,585	4,918	...	2,462	1,95,965	
23	Hubli ...	821	40,253	23,386	17,713	82,173	
24	Matheran ...	.....	11,170	...	...	11,170	
25	Ratnagiri ...	98,036	2,000	...	...	1,00,036	
	Total ...	7,86,064	6,76,338	3,00,389	91,321	18,54,112	

W. H. E. GARROD,

Consulting Public Health Engineer to Government.

STATEMENT No. 8.

STATEMENT

Comparative statement of fuel consumption, working expenses and the year

Serial No.	Name of Water Works.	Class of work. Gravitation or Pumping.	Fuel consumed.	Fuel consumption per 1,000 feet gallons.	Price of fuel per Ton or 40 gallons.	Total average lift.
1	2	3	4	5	6	7
				Lb.	Rp.	Ft.
1	Ahmedabad ...	Pumping ...	2,866 Tons.	.....	14·5	106
2	Kapadwanj ...	Do. ...	4,564 Gls.	0·0004	80·0	146
3	Surat ...	Do. ...	1,351 Tons.	0·02	17·62	113·5
4	Bhiwandi ...	Gravitation ...	.....	.....	.....	.....
5	Kurla ...	.....	.....	.....	.....	.....
6	Ahmednagar ...	.....	.....	.....	.....	.....
7	Jalgaon ...	.....	.....	.....	.....	.....
8	Dhulia ...	.....	.....	.....	.....	.....
9	Nandurbar ...	Pumping ...	.....	0·001	11·25	90 50
10	Nasik ...	Do. ...	1,371 Tons.	0·046	15·125	900
11	Trimbak ...	.....	.....	.....	.....	.....
12	Poona City ...	Gravitation and Pumping.	2,15,500 Gls.	0·4	.....	70
13	Poona Cantonment ...	Do. ...	1,352 Tons.	0·003	20·0	210, 170, 140 70.
14	Kirkee ...	.....	55 ,,	0·00042	66 Oil.	160
15	Lonavla ...	.....	.....	.....	.....	.....
16	Alandi ...	Pumping ...	640·3 Lbs.	.....	63·0	99
17	Karad ...	Do. ...	3,388 Gls.	0·0031	88·0	140
18	Satara City ...	.....	.....	.....	.....	.....
19	Sholapur ...	Gravitation and Pumping.	27,332 Gls.	0·025	79·56	143
20	Barsi ...	.....	.....	.....	.....	.....
21	Pandharpur ...	Pumping ...	11,961·5 Gls.	0·026	96·75	137·0
22	Bijapur ...	Do. ...	1,000 Tons.	0·047	16·56	223
23	Hubli ...	Do. ...	1,121 ,,	0·97 Oz.	14·25	135
24	Matheran ...	Do. ...	9·21 ,,	0·0036	85·0	420
25	Ratnagiri ...	.....	.....	.....	.....	.....

No. 8.

receipts of various water works in the Bombay Presidency during 1936-1937.

Percentage of charges for—					Per 1,000 gallons.		Per head per annum.			
Establishment.	Fuel.	Oil and Waste.	Repairs to Machinery.	Other charges.	Total working cost.	Total receipt	Total working cost.	Total Receipt.	Total Profit or loss.	Remarks.
8	9	10	11	12	13	14	15	16	17	18
					Rs.	As.	As.	As.	As.	
12	22	8	1	63	1·17	5·0	...	...	3·83	Profit.
0·08	3·003	0·0008	0·0003	0·002	...	...	...	...	...	
23·3	57·4	2·5	7·05	9·6	...	...	...	...	...	
...	...	.....	.....	...	...	...	...	...	...	
...	...	.....	.....	...	...	...	...	...	...	
...	...	.....	.....	...	...	...	...	...	...	
...	...	.....	.....	...	...	...	...	...	...	
...	...	.....	.....	...	...	...	...	...	...	
20	27	17	10	26	...	...	...	...	...	
25	15	10	6	44						
23·2	64·7	1·1	6·0	5·0	3·08	2·75	...	...	0·33	Loss.
...	...	.....	.....	...	...	...	...	...	...	
...	...	.....	.....	...	...	...	...	...	...	
27	18	7	0·90	47·10	2·75	8·41	51·0	85·0	34·0	Profit.
41	6·3	4·10	2·90	45·70	3·41	7·92	70·0	68·0	2·0	Deficit.
...	...	.....	.....	...	...	...	...	...	...	
39·07	3·22	3·05	.....	54·66	...	...	...	...	...	
30·4	11·59	7·0	6·41	44·6	4·46	5·16	1·33	1·54	0·31	Profit.
...	...	.....	.....	...	...	...	...	...	...	
14·6	18·4	2·07	1·05	63·88	30·72	3·15	18·88	30·72	11·84	Profit.
...	...	.....	.....	...	...	...	...	...	...	
39·32	25·53	6·71	1·30	25·15	1·034	2·64	10·064	25·79	15·73	Profit.
22·80	51·39	13·10	5·21	8·0	2·97	2·75	0·19	...	...	
21·64	27·69	4·25	6·16	...	...	...	...	...	...	
46·2	7·0	3·6	.....	43·0	...	...	...	...	...	
...	...	.....	.....	...	...	...	...	...	...	

W. H. E. GARROD,
Consulting Public Health Engineer
to Government.

STATEMENT

Statement showing Capital cost, details of income and expenditure

Serial No.	Particulars.		Ahmedabad.	Kapadwanj.	Surat.	Bhiwandi.
1	Description of Plant ...	.....	.....	Two Pumping Engines, Oil Engine and Deep Well Pump.	.....	.....
2	Initial capital cost in lakhs ...	Rupees ...	22·0	4·75	9·88	0·42
3	Total cost of works in lakhs .	Do. ...	48·5	4·81	12·8	0·75
4	Number of inhabitants drawing their supply from mains.	.....	3,70,000	15,931	1,61,413	10,000
5	Hours of supply daily ...	.....	18	9·5	17	.....
6	Quantity supplied during the year in million gallons.	.....	5,980·0	67·22	1,312·85	0·22
7	Total W. H. P. hours per annum in millions.	.....	3·33	0·51	0·77	.....
8	Maximum daily average during any month in million gallons.	.....	17·5	6·61	3·89	0·18
9	Average daily supply for the year in millon gallons.	.....	16·3	0·18	3·59	0·15
10	Maximum supply per head per day in gallons.	.....	46·0	13·3	.....	15·0
11	Average supply per head per day in gallons.	.....	44·0	11·5	.....	15·0
12	Total lift (average) ...	Feet ...	110·0	146·0	113·5	.....
13	Quantity supplied during the year in million feet.	Gallons ...	6,57,800	9,81,412	1,49,140	2,15,000
14	Fuel consumed ...	Tons ...	Coal and Electricity power.	17·75	1,361·0	.....
15	Fuel consumption per million feet gallons.	Lbs. ...		4·1	20·44	.....
16	Cost of fuel per ton ..	Rupees ...	14·5	80·0	17·63	.....
17	Cost of establishment per million feet gallons.	Annas ...	1·0	9·0	1·22	.....
18	Cost of fuel or electric energy per million feet gallons.	Do. ...	2·0	3·5	3·02	.....
19	Cost of oil and waste per million feet gallons.	Do. ...	0·8	1·0	0·14	.....
20	Cost of other charges per million feet gallons.	Do. ...	6·0	2·5	0·37	.....
21	Cost of repairs to machinery per million feet gallons.	Do. ...	0·2	0·33	0·43	.....
22	Total charges per million feet gallons.	.....	10·0	16·33	5·18	.....

No. 9.

of water works in the Bombay Presidency during the year 1936-37.

Kurla.	Ahmed-nagar.	Jalgaon.	Dhulia.	Nandur-bar.	Nasik.	Trimbak.	Poona City.
.....	.....	.....	.....	.....	Steam engine.	.....	.....
1·08	18·64	4·09		3·75	5·5		6·90
1·13	18·54	.....		3·80	7·3		.....
32,000	1,629	34,464		16,741	50,000		40,000
24	6	4 to 5		3	4		18
2,13·42	223·65	354·96		69·48	326·86		3,194·0
.....	.....	0·461		.....	·001		.....
0·63	0 93	1·09		0·22	1·12		10·0
0·60	0·63	0·97		0·19	0·89		8·7
19·7	.....	31·8	Nil.	13·0	22·0	Information not supplied.	62·0
18·7	14·64	28·2		11·3	17·0		53·0
80·0	.....	186		90 and 50	200		70
.....	.....	.....		.....	65,373·5		511·0
.....	.....	.....		12·0	1,371		2,15,000
.....	.....	.....		51	46·9		511·0
.....	.....	.....		63	15·125		.....
3·3	.....	.....		5·0	1·9		.....
.....	.....	... ..		.....	5·0		.....
.....	.....	.....		.....	0·1		.....
3·25	.....	.....		.....	0·36		.....
.....	.....	.....		.....	0·5		.....
6·55	.....	.....		5·0	7·86		.....

STATEMENT

Statement showing Captial cost, details of income and expenditure

Serial No.	Particulars.		Poona Cantonment.	Kirkee.	Lonavla.	Alandi.
1	Description of Plant ...	.....	Steam engine.	Oil engine.	.....	Pumping
2	Initial Capital cost in lakhs...	Rupees ...	6·90	4·00	4·9	0·096
3	Total cost of works in lakhs .	Do. ...	15·58	8·60	4·9	0·096
4	Number of inhabitants drawing their supply from mains.	.....	53,283	13,062	10,693	1,680
5	Hours of supply daily ...	.....	24	24	24 from July to November. Rest 9 hours.	24
6	Quantity supplied during the year in million gallons.	.....	956·84	272·41	826	8·69
7	Total W. H. P. hours per annum in millions.	.....	0·59	0·176	.....	0·004
8	Maximum daily average during any month in million gallons.	.....	3 80	0·89	0·18	0·046
9	Average daily supply for the year in million gallons.	.....	2·64	0·70	0·23	0·027
10	Maximum supply per head per day in gallons.	.....	68	61	26·5	.....
11	Average supply per head per day in gallons.	.....	50	54	21·16	16
12	Total lift (average) ...	Feet ...	210; 170; 140; 70	160	.....	99
13	Quantity supplied during the year in million feet.	Gallon ...	1,17,760·0	344·80	.....	860·31
14	Fuel consumed ...	Tons ...	1,352	55	.....	2·5
15	Fuel consumption per million feet gallons.	Lbs. ...	25·72	3·53	.....	7·44
16	Cost of fuel per ton ...	Rupees ...	20	66	.....	68
17	Cost of establishment per million feet gallons.	Annas ...	1·01	2·86	.....	35·68
18	Cost of fuel or electric energy per million feet gallons.	Do. ...	3·20	1·87	.....	2·88
19	Cost of oil and waste per million feet gallons.	Do. ...	0·15	0·41	.....	.....
20	Cost of other charges per million feet gallons.	Do. ...	0·18	0·23	.....	.....
21	Cost of repairs to machinery per million feet gallons.	Do. ...	.....	.....	.....	.....
22	Total charges per million feet gallons.	.....	4·54	5·37	.....	38·56

No. 9.

of water works in the Bombay Presidency during the year 1936-37.

Karad.	Satara City.	Sholapur.	Barsi.	Pandharpur.	Bijapur.	Hubli.	Matheran.	Ratnagiri.
...	...	...	...	.....	.....	.....	.....	.....
2·44	...	21·2	...	4·45	.....	5·01	3·32	1·09
2·55	...	22·55	...	.....	.....	10·18	3·49	1·07
14,479	...	1,35,574	...	30,000	35,000	83,494	2,734	8,500
4	...	8	...	6½	5	15·5	24	24
69·07	316·56	1,414·27	197·55	293·07	214·85	304·38	11·8	65·56
0·05	...	1·021	...	0·20	.....	0·20	.....	.....
0·203	...	4·041	0·54	0·84	0·61	1·25	0·126	0·33
0·19	0·87	3·874	...	0·7	0·59	0·8	0·049	0·18
14	...	29·8	21	28	17·4	10	45	39
13	32·8	38·9	19·6	23	168	10	15	21
140	...	143·3	...	137	233	135	480	.....
9,669·8	...	2,02,664	...	40,150·59	47,921	41,077·8	5,664	.....
14·0	...	362·82	...	50·0	1,000	1,121·23	9·21	.....
3·24	...	4·3	...	2·78	47·0	61·14	3·6	.....
88	...	79·44	...	96·75	16·58	14·25	85·0	.....
5·35	...	1·71	...	2·95	2·25	4·9	14·59	.....
2·08	...	2·15	...	1·92	5·53	6·24	2·18	.....
1·24	...	0·21	...	0·64	1·41	0·96	1·16	.....
7·83	...	9·33	...	1·92	0·86		13·58	.....
1·025	...	0·13	...	0·09	0·56	1·1	.....	.....
17·47	...	13·55	...	7·62	10·61	13·2	31·51	.....

STATEMENT

Serial No.	Particulars.		Ahmedabad.	Kapadwanj.	Surat.	Bhiwandi
23	Maintenance charges per million gallons supplied.	Annas ...	0·9	16·33	5·25	.....
24	Interest and sinking fund charges per 1,000 gallons supplied.	Do. ...	0·5	4·06	.....	.....
25	Total (Maintenance and Interest and sinking fund per 1,000 gallons supplied).	Do. ...	1·4	20·39	5·26	.....
26	Maintenance charges in thousands.	Rupees ...	297	10·52	.....	.....
27	Interest and sinking fund charges in thousands.	Do. ...	141	4·0	.....	.....
28	Total income in thousands ...	Do. ...	1,900	25·01	.....	.....
29	Profit or loss on Maintenance in thousands.	Do. ...	1,603	14·48	.....	.....
30	Profit or loss on Maintenance and Interest and sinking fund in thousands.	Do. ...	1,464	10·48	.....	.....
31	Profit or deficit percentage on total cost of works.	.....	431	2·37	.....	.....

No. 9—*contd.*

Kurla.	Ahmednagar.	Jalgaon.	Dhulia.	Nandurbar.	Nasik.	Trimbak.	Poona City.
6·55	.....	0·03	Nil.	.....	11·3	Information not supplied.	.....
.....	.....	.....		.....	·8		.....
6·55	.....	0·03		.....	12·0		.....
6·09	.....	20·25		7·3	13·0		.....
.....	.....	.....		24·0	17·3		.....
154·35	.....	56·4		25·9	60·1		.....
18·78	.....	36·13		18·6	.....		.....
.....	.....	.....		5·4	.....		.....
16·6	.....	.....		1·4	1·26		.....

STATEMENT

Serial No.	Particulars.		Poona Cantonment.	Kirkee.	Lonavla.	Alandi.
23	Maintenance charges per million gallons supplied.	Annas ...	2·81	3·38	0·41	7·23
24	Interest and sinking fund charges per 1,000 gallons supplied.	Do. ...	3·33	3·33	0·75	2·2
25	Total (Maintenance and Interest and sinking fund per 1,000 gallons supplied.)	Do. ...	6·14	6·71	1·16	9·45
26	Maintenance charges in thousands.	Rupees ...	170·0	57·6	2·36	.....
27	Interest and sinking fund charges in thousands.	Do. ...	258	.....	4·20	.....
28	Total income in thousands ...	Do. ...	588	.....	19·81	.....
29	Profit or loss on Maintenance in thousands.	Do. ...	.....	... ..	17·45	.....
30	Profit or loss on Maintenance and Interest and sinking fund in thousands.	Do. ...	.....	.....	13·25	.....
31	Profit or deficit percentage on total cost of works.	....	.....	.....	3·5	.....

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No. 9—*concld.*

Karad.	Satara City.	Sholapur.	Barsi.	Pandharpur.	Bijapur.	Hubli.	Matheran.	Ratnagiri.
2·47	...	1·74	...	1·03	3·42	2·12	9·3	.....
2·02	...	0·26	...	1·51	1·67	0·96	11·2	1·69
4·19	...	2·0	...	2 54	4·00	3·08	20·5	1·69
10·6	...	148·7	...	18·88	32·41	40·25	14·17	3·8
8;67	...	23·2	4·46	37·70	5·0	18·14	4·0	4·0
22·3	...	278·7	15·71	48·35	36·94	87·08	23·65	5·1
11·67	...	130·0	...	29·47	4·50	46·83	11·48	6·2
3·0	...	106·76	...	1·76	0·50	28·69	7·48	1·25
1·18	...	4·7	...	0·81	0·05	2·8	1 9	.....

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